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Influence of observation of true stuttering and self-disclosure on college professors' perception of students who stutter

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Influence of observation of true stuttering and self-disclosure on college professors' perception of students who stutter

by

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Dedication

This thesis is dedicated to my father Stephen, mother Carol, and brother Aaron. Thank you for your love and support. Aaron, I could not have asked for a better role model in navigating life as a person who stutters. In addition, this thesis is dedicated to all those who stutter. I hope to continue to serve you as best I can.

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Abstract

Influence of observation of true stuttering and self-disclosure on college professors' perception of students who stutter

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Research has demonstrated that college professors rate hypothetical students who stutter more negatively than college students who do not stutter. To date, no studies have explored perceptions when observing actual students who stutter. Furthermore, self-disclosure has been proven to influence listener perception. The primary purpose of the present study is to investigate the role self-disclosure has on the perception of college professors.

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INTRODUCTION

Negative perceptions of stuttering persist across many groups of listeners (Craig, Tran & Craig, 2003; Doody, Kalinowski, Armson, & Stuart, 1993; Dorsey & Guenther, 2000; Fowlie & Cooper, 1978; Hurst & Cooper, 1983; Kalinowski, Lerman, & Watt, 1987; Lass, Ruscello, Pannbacker, Schmitt & Everly-Myers, 1989; McDonald & Frick, 1954; McKinnon, Hess, & Landry 1986; Ruscello & Lass, 1994; White & Collins, 1984; Woods & Williams, 1976; Yairi & Williams, 1970). Some might assume that these perceptions are unique to those who are less educated, yet research has demonstrated that even among those persons who are considered to be the most educated, stuttering is still viewed negatively. University professors rate students who stutter as less intelligent, less competent, and lower on scales measuring personality traits than they rate the average college student (Dorsey & Guenther 2000). There are also data to suggest that students who present with circumstances that are distinct from their professors (e.g., being a minority, having a disability, etc.) may face unique barriers to success in the classroom setting. Thus from a clinical perspective, it is important to explore how to best navigate these environments where persons who stutter may be at greater risk of experiencing the negative consequences of the stereotype of stuttering. Perhaps, acknowledgement of stuttering would make a significant difference in the professor's view of their students who stutter. The primary purpose of the present study is to investigate whether or not self-disclosure of stuttering would have a positive influence on the perception of professors toward college students who stutter. The secondary purpose was to determine whether formal academic training with regard to communication sciences and disorders and/or simply having had previous experience of personal interactions with persons who

stutter may uniquely impact professor perception of college students who stutter who do and do not self-disclose.

PROFESSORS' PERCEPTIONS OF COLLEGE STUDENTS WHO STUTTER

There is limited research regarding professors' perceptions of college students who stutter. However, among the data presently available, professors appear to possess negative stereotypes of stuttering, a lack of knowledge about the underlying etiology, as well as a lack of understanding regarding potential accommodations that might be needed in the classroom setting. For example, Ruscello, et al. (1990/1991) found that university professors' selected predominantly negative adjectives in describing hypothetical adults who stutter. The authors administered a questionnaire instructing participants to list as many adjectives as they could think of that accurately described four hypothetical people who stutter: a male child who stutters, a female child who stutters, a male adult who stutters, and a female adult who stutters. A total of 121 professors completed the questionnaire. Of these 121, only 37 professors reported adjectives for the female adult and only 61 professors reported adjectives for the male adult. The adjectives they provided for both female and male adults who stutter were negative in nature with the adjectives "shy" and "frustrated" among the top five reported adjectives for both genders.

Similar to Ruscello and colleagues (1990/1991), Dorsey and Guenther (2000) found that university professors perceive a hypothetical college student who stutters significantly more negatively across most personality traits. The authors administered a questionnaire that asked participants to rate either an "average college student" or a "college student who stutters" on the following 20 personality traits using a Likert scale: open, nervous, shy, self-conscious, passive, intelligent, aggressive, guarded, bold, calm, dull, perfectionist, mediocre, self-assured, competent, reticent, reserved, incompetent,

talkative, and bright. Respondents included 34 university professors and 57 college students. Of the 91 respondents, 31 returned the "average college student" version and 60 returned the "college student who stutters" version of the questionnaire. Results revealed that professors rated the hypothetical college student who stutters more negatively than the hypothetical average college student on 15 traits and more positively on only 1 trait. These findings highlight a generally negative stereotype harbored by professors toward hypothetical college students who stutter.

More recently, Daniels et al. (2011) conducted a survey exploring the perceptions of university professors toward stuttering and college students who stutter. A total of 328 professors representing a variety of disciplines responded to 12 statements on a Likert scale using the choices "strongly agree," "agree," "undecided," "disagree," and "strongly disagree." These statements investigated their perceptions regarding stuttering, students who stutter, and classroom participation. Following their responses, participants were provided the opportunity to describe their feelings, in an open-ended format, about working with college students who stutter. They were also provided the opportunity to clarify any of their responses to the 12 statements. The authors found that the majority of professors disagreed that most people who stutter can be described as "shy," however they had limited knowledge about the disorder and the underlying cause. In addition, while generally willing to accommodate, many reported that they had little to no experience working with students who stutter and were not able to provide potential accommodations. Professors in this study also reported that they believed that stuttering did not interfere with a student's academic performance. Of particular importance to the present study, Daniels et al. found that an increased knowledge of stuttering was significantly associated with positive attitudes toward students who stutter. However, only 26 of the total 322 participants reported having had a course in stuttering.

Professors who had no course in stuttering were likely to report being undecided to the statements: stuttering resulted from an underlying psychological problem; stuttering resulted from an underlying physical problem; it is difficult to know how to react to people who stutter in the classroom situation; most people who stutter can be described as being shy; and instructors have little influence on the attitudes of people who stutter toward stuttering.

Taken together, studies that have explored the perspectives of professors toward hypothetical college age persons who stutter appear to demonstrate that persons who stutter may be uniquely vulnerable to negative stereotypes and a lack of understanding toward their communication disorder. Thus, from a clinical perspective, there is a need to explore how our clients who stutter can (at least, initially) best navigate these potentially stigmatizing circumstances.

INFLUENCE OF ACKNOWLEDGMENT AND SELF-DISCLOSURE ON LISTENER PERCEPTION

Persons who stutter commonly report attempts to conceal their stuttering from listeners. Any attempt to hide stuttering is referred to as covert stuttering. For some, the attempts to hide stuttering is characterized by situation, word, and sound avoidances. An integral aspect to acceptance of stuttering is the willingness to advertise their stuttering to listeners. The willingness to no longer be covert and openly share what they have previously struggled to hide, facilitates locus of control. Rotter (1996) reports that individuals who have an internal locus of control (i.e., a strong belief that he/she can control events in his/her life) is likely to (a) be more conscious to aspects of the environment which provide useful information for his/her future behavior; (b) take steps to improve his/her environment; (c) place greater value on skill or achievement,

particularly his/her failures; and (d) be resistant to subtle attempts to influence him/her (p. 25). An internal locus of control is needed to acknowledge stuttering in listener-speaker interactions. Also, this internality has important therapeutic implications regarding long-term maintenance outcomes, as the perception that one has control is crucial to carrying over techniques into daily life. In fact, Craig and Andrews (1985) found that adults who stutter whose scores on a locus of control scale moved toward internality during therapy were more likely to maintain fluency gains post-treatment. Conversely, adults who stutter whose scores moved toward externality or stayed the same during the course of fluency therapy were more likely to relapse.

Acknowledgment of stuttering or some form of disclosure on the part of the speaker that he or she is a person who stutters has been explored as a potential strategy for increasing listener comfort and understanding when interacting with a person who stutters. For example, Collins and Blood (1990) had 84 adult female college students view one of four videos made from recordings of two male adults who stutter. The conditions included either viewing a mild or severe person who stutters, in which the speaker either acknowledged or did not acknowledge the fact that they stuttered. After viewing the acknowledgment and "nonacknowledgment" videos the participants completed a questionnaire that included 14 bipolar opposites arranged on a Likert scale: sincere-insincere, likeable-not likable, trustworthy-untrustworthy, decisive-indecisive, physically normal-physically abnormal, reliable-unreliable, poor sense of humor-good sense of humor, mentally stable-mentally unstable, unsociable-sociable, hostile-friendly, weak character-strong character, unintelligent-intelligent, unemployable-employable, emotionally adjusted-emotionally maladjusted. The participants were then given the opportunity to respond to open-ended questions regarding how the speaker would act around strangers, in noisy environments, and how they would feel they would act around

the speaker. Lastly, the participants were instructed to select which one they would prefer to have as their work partner. The results revealed that the participants responded with a significantly greater number of positive responses when the speakers acknowledged their stuttering. Responses included positive attributes like ability to cope, overall ease in the speaking situation, and positive attitude. Similarly, a significant number of participants preferred to work with the persons who stutter who acknowledged their stuttering. A more in depth analysis of their data revealed that a person who presents with severe stuttering may be more likely to incur positive perceptions from acknowledgment, while the condition including mild severity yielded no significant difference in listener perception with respect to acknowledgment over "non-acknowledgement."

Self-disclosure is a term more recently used in clinical research to describe acknowledging stuttering. Self-disclosing can be a valuable tool for a person who stutters as it allows him/her to have ownership of his/her speech, reduces his/her anxiety and/or sensitivity to his/her stuttering and reduces negative listener biases (Bloodstein, 1995; Collins & Blood, 1990; Sheehan, 1975; Van Riper, 1982). Healey et al. (2007) conducted a study to examine listener perceptions of an adult male who stutters who does or does not verbally disclose his stuttering. Three groups of participants, including 90 adults who do not stutter, independently viewed one of three videotaped monologues of a male speaker with severe stuttering. The speaker self-disclosed his stuttering at the beginning of a monologue in video 1 and at the end of a monologue in video 2, but did not self-disclose in video 3. Participants were instructed to rate a set of six Likert scale statements and answer three open-ended questions. Analysis across the three conditions revealed that the speaker who disclosed his stuttering at the end of the monologue was perceived to be significantly friendlier. Healey and colleagues also note that the speaker

who disclosed his stuttering at the beginning received more positive listener comments in the open-ended response questions.

Healey et al. (2007) improved on Collins and Blood's study by examining personality characteristics of persons who stutter in the context of an informal social interaction. Also, both studies utilized video recordings of true stuttering, which protects from the potential confound of having the listener imagine a hypothetical person who stutters but a limitation to generalizing each study's findings is the use of only male speakers. Similarly, stuttering was disclosed at the end of videotaped monologues in the study by Collins and Blood (1990) and only in one of the three monologues used in Healey et al. (2007). Hearing a person self-disclose his/her stuttering at the end of the monologue may have less impact on the listener's perception as they may have already formed an opinion about the subject. Healey et al. included an experimental condition of a person self-disclosing at the beginning of his monologue, but the sample size was small. Only 30 participants viewed each of three conditions for a reported total of 90. The present study seeks to improve upon these limitations by recruiting an equal number of participants to view an adult male who self-discloses and an adult female who self-discloses. Additionally, the self-disclosure statements for the present study are at the beginning of the monologue, perhaps before an impression can form. Lastly, the current literature on self-disclosure has not yet investigated university professors' perceptions of college students who stutter. As evidenced in Dorsey and Guenther (2000), university professors held more negative stereotypes of college students who stutter than did college students who do not stutter (p. 79). Thus, college students who stutter are at risk of being viewed through stereotypes at varying degrees given the different experience listeners draw from their past. As such, another purpose of the present study was to explore whether university professors who have been formally educated about stuttering may

view self-disclosure more positively than professors who have not had similar experience.

PURPOSE

In summary, research indicates that listener uncertainty about the nature of stuttering and how they should interact with persons who stutter may contribute to their negative perceptions of persons who stutter (Collins & Blood, 1990; Daniels et al., 2011; White & Collins, 1984). Research also suggests college students who stutter may be uniquely vulnerable to stigmatization and the related negative consequences. Thus, there is a need to explore how college students who stutter can best navigate academic interactions in a manner that will diminish any potential negative listener biases. The purpose of the present study is to further investigate whether or not self-disclosure of stuttering will have a positive influence on the perception of professors toward college students who stutter. Given that the experiences in ones' life have been shown to shape perception of college students who stutter, the secondary purpose of this study is to investigate whether academic training specific to stuttering (i.e., a professor in the department of communication sciences and disorders), or having met a person who stuttered may influence perception of college students who stutter. Specifically, the following questions will be investigated: (a) Does self-disclosure impact perception of professors toward college students who stutter?; (b) Does self-disclosure uniquely impact perception if the professor is in a department of communication sciences and disorders?; (c) Does previous experience of personal interactions with a person who stuttered uniquely influence professors' perceptions of self-disclosure?

METHOD

SURVEY DEVELOPMENT

The survey developed for the present study required participants compare two videotaped recordings of a speaker either self-disclosing or not self-disclosing that they stutter before reciting a monologue. The survey was designed to be quickly administered and take approximately ten to fifteen minutes to complete. There were three distinct sections to the survey.

Part I, asked participants their gender, age, specialization as a professor. Part I also inquired as to whether or not their department was associated with the field of speech-language pathology.

Part II of the survey was presented after participants viewed the paired videos (described in detail below). Participants were asked to indicate a choice regarding whether eight specific traits differed across the videos and to indicate which video he/she found more or less distracting. In order of appearance on the survey, the eight traits were: friendly, outgoing, intelligent, confident, unfriendly, shy, unintelligent, and insecure. Participants were allowed to select video 1, video 2, or no difference as their response. The participants were then instructed to respond to four open-ended questions regarding their perceptions of each speaker and the speaker's communication. To ensure all participants provided comparable data, responses to all questions were required before proceeding to the next part of the survey.

Part III of the present study's survey included additional questions to determine prior exposure to stuttering (e.g., previous stuttering diagnoses, personal relationship with a PWS, and education specific to stuttering). This section also investigated informal

experiences with stuttering (e.g., reading a book about stuttering; watching a movie about stuttering). At the end of this section, participants were provided the opportunity to share any additional comments they felt were critical to their completion of the present study.

STIMULI

Stimuli used in this study were four distinct video clips (described in detail below) in which an adult male or female speaker read the *Rainbow Passage* while maintaining eye contact with the camera. Each of the four segments began with the speaker looking in the camera and stating, "Hi my name is [Alex (male) /Behnaz (female)], and I'm going to recite a passage about rainbows." Then, the speakers recited a memorized passage to facilitate appropriate eye contact throughout the entire monologue. In two of these segments, the speaker disclosed his/her stuttering before reading the passage by stating, "Just so you know I sometimes stutter so you might hear me repeat some words or phrases." To create a comparable video segment in which the speaker did not self-disclose, the self-disclosure statement was removed using advanced editing software. Thus, there was no difference for either the male or the female video with regard to the video segments with and without self-disclosure other than that particular statement being edited out of the clip.

PROCEDURES

Participants were randomly assigned to one of four conditions (A, B, C, D) to control for possible order and/or gender effects. In video set A, participants observed a male speaker first not disclose his stuttering followed by the same speaker disclose his stuttering in the second video. In video set B, participants observed a female speaker first not disclose her stuttering followed by the same speaker disclose her stuttering. In video

set C, participants observed a male speaker first disclose his stuttering followed by the same speaker not disclose his stuttering. In video set D, participants observed a female speaker first disclose her stuttering followed by the same speaker not disclose her stuttering.

PARTICIPANTS

Recruitment. For the present study, university professors were the exclusive demographic. To allow for comparable recruitment across universities, participants had to have the title of professor, associate professor, assistant professor, or adjunct professor. Importantly, clinical faculty and lecturers were excluded, as they are not employed across all universities.

An essential criterion for including a university was that it had a college within the university wherein there was a department of communication sciences and disorders (CSD). The American Speech and Hearing Association (ASHA) website was used to generate a list of all schools in the United States that had programs that offered a PhD in Speech Language Pathology (SLP) as these programs were more likely to be sufficiently large. The final number of universities from which participants were recruited was 61.

Professors across these 61 universities were recruited from the CSD programs as well as from each of the 61 universities' departments of education, psychology, business, and social work. To balance the responses from each department, twice as many non-CSD professors were emailed as compared to CSD professors. When possible, 10 professors from the departments of education, psychology, business, and social work

were emailed for every five CSD professors. When schools did not have twice as many professors in the other departments as they had in CSD, as many professors as they had in other departments were included in the list. Additionally, if they did not have a particular department, that department was excluded only from the email list for that university. This exclusion was most frequently applicable to social work. Over the period of January 20, 2015 - February 25, 2015, 3320 emails were sent to professors of 61 different universities. Of the total, 73 emails bounced, possibly due to changes in staff (e.g., retirement).

Demographics. A total of 168 university professors responded to the online survey with a mean age of 56 yrs. Participants were predominantly female, totaling 103 respondents, while 65 were male. Almost one-third of respondents were from CSD departments. Specifically, 57 in total (34%) were from CSD and 111 (66%) were from departments with no affiliation to speech-language pathology. Of the respondents' departments with no affiliation to CSD, 33 were from education, 22 from psychology, 28 from business, 25 from social work, and 5 from educational psychology departments. The majority of respondents (n = 132, 78.6%) reported meeting a PWS at some point in their life or had a student in their class who stuttered, while 36 (21.4%) did not.

INFORMED CONSENT

Following the compilation of an email list, an invitation to complete the survey was emailed to all members of the list. Voluntary enrollment was ensured by using an Informed Consent letter that was distributed within the initial email request for participants to complete the survey. The letter was approved by the University of Texas

at Austin Institutional Review Board, and informed the participants that participation was completely optional. Additionally, the letter assured participants that their confidentiality and privacy would be protected. Thus, this email invitation described the general purpose of the research and also served as a document of informed consent. By clicking on the link within the email that was connected directly to the survey, the participant would be providing their informed consent.

SURVEY DISTRIBUTION

Qualtrics, an online survey service, was used to manage the present survey. This hosting platform was chosen because of its ease of use and ability to transmit the survey to a wide field of respondents. In addition, Qualtrics' website reports compliance with the federal Health Insurance Portability and Accountability Act (HIPAA) standards. The service provides unique respondent identifiers that were configured to show only the university and department of each participant and conceal respondents' names. Qualtrics also prevents multiple submissions from a single survey participant.

Stimulus videos were embedded into the Qualtrics survey to seamlessly integrate them into the survey interface to expedite survey response time. These videos were hosted on Box's servers, an online storage service that also adheres to HIPAA regulations. Qualtrics was used to counterbalance which video participants saw first. Randomized order was beneficial to the present study so that each of the four conditions (described in detail above) was given equal viewing opportunity. These services were available at no cost to current students, faculty, and staff of The University of Texas at Austin.

RESULTS

Recall the purposes of the present study were to review professor perceptions of college students who do and do not self-disclose their stuttering as well as whether or not these perceptions were influenced by formal and/or informal exposure to this disorder. Three questions were addressed: (a) Does self-disclosure impact perception of professors toward college students who stutter?; (b) Does self-disclosure uniquely impact perception if the professor is in a department of communication sciences and disorders?; (c) Does previous experience of personal interactions with a person who stuttered uniquely influence professors' perceptions of self-disclosure? Results will be provided with respect to each of these three questions.

For the purposes of this study we will analyze which video respondents rated as "more confident." Analyses for other questions will be omitted due to a low number of responses. For instance, if ratings of "video 1," "video 2," or "no difference" individually totaled less than five they were omitted from the model. Inclusion of responses to these omitted survey questions could be statistically misleading.

DOES SELF-DISCLOSURE IMPACT PERCEPTION OF PROFESSORS TOWARD COLLEGE STUDENTS WHO STUTTER?

This research question was addressed by analyzing the responses to professors' choices regarding differences in which video, if any, was rated "more confident." During our investigation we employed the use of a one-way chi-square test of goodness-of-fit to determine whether responses of "video 1," "video 2," or "no difference" were equally preferred. The null hypothesis of the goodness-of-fit test stated that observed and expected frequency of responses would be equal. Specifically, one-third (56) of the total

(168) participants would respond equally to the three ratings of "video 1," "video 2," or "no difference." The results rejected the null hypotheses as professors did not respond equally across these three ratings suggesting that there was a significant difference in professors' perception of college students who do and do not self-disclose their stuttering ($X^2(2, N = 168) = 48.89, p < .0001$). Notably, 55.4% (n = 93) chose "no difference" when comparing speakers in regards to which of the two videos they found the speaker to be more confident. By comparison, 33.3% of participants (56) rated the self-disclosure video as "more confident" than no self-disclosure. Only 11.3% of professors (19) selected the video with no self-disclosure as most confident.

An additional one-way chi-square test of goodness-of-fit was completed to examine the influence of self-disclosure on professors' preferences among those who reported a preference between the two videos. Only the professors who chose responses of "video 1," or "video 2," were included in this test, while those who responded with "no difference" between the two videos were excluded. This test determined whether responses of "video 1," or "video 2," were equally preferred. Like the previous test, this null hypothesis was similarly rejected. This analysis suggests that professors who reported a preference found a significant difference between videos of college students who do and do not self-disclose their stuttering ($X^2(2, N = 75) = 17.28, p < .0001$). Of the professors who reported a preference of video 1 or 2 (n = 75), 74.7% (56) felt the college student they viewed was more confident when they self-disclosed than the same student who did not self-disclose their stuttering.

DOES SELF-DISCLOSURE UNIQUELY IMPACT PERCEPTION IF THE PROFESSOR IS IN A DEPARTMENT OF COMMUNICATION SCIENCES AND DISORDERS (CSD)?

The present study utilized nominal regression models to analyze possible differences of perception between professors who are affiliated with CSD departments as compared to professors who are not. Specifically, we compared CSD professors with non-CSD professors including those in departments of education, psychology, business, social work, and educational psychology. Results show that CSD professors' ratings did not significantly differ from non-CSD departments ($X^2(4, N = 168) = 1.954, p = .744$). In fact, CSD professors were no more likely to rate a college student who self-disclosed as "more confident" than non-CSD professors. To assess the amount of variance accounted for in the model, Cox and Snell and Nagelkerke R-square tests were conducted. The logistic regression model as a whole explained between 1.2% (Cox and Snell R-square) and 1.4% (Nagelkerke R-squared) of the variance of responses.

Again, responses were recoded to more closely analyze perceptions of participants who reported having a preference between the two videos. Regression analyses for preference of self-disclosure will be described in terms of odds ratios (i.e., *OR*). Affiliation with CSD was not a significant predictor of greater odds of rating the college student who self-disclosed as being more confident than the same student who did not self-disclose ($OR = 1.57, p = 0.464$). These results suggest that the model was not able to distinguish between preferences of self-disclosure as compared to preferences of no self-disclosure.

DOES PREVIOUS EXPERIENCE OF PERSONAL INTERACTIONS WITH A PERSON WHO STUTTERED UNIQUELY INFLUENCE PROFESSORS' PERCEPTIONS OF SELF-DISCLOSURE?

Prior exposure to stuttering did not contribute significantly to perception of self-disclosure. Again, exposure was measured by whether the professor had met a person who stuttered in their lifetime or had a student in their class who stuttered. A logistic regression analysis yielded that the 132 respondents (79% of sample) who reported knowing a PWS were no more likely to rate a college student who self-discloses as "more confident" than the 36 participants who did not.

When responses were recoded to reveal only professors with a preference, again, only 75 remained in the new sample. Of the remaining professors, 58 reported knowing a PWS, while only 17 reported otherwise. Prior exposure to stuttering was not a significant predictor of greater odds of rating the college student who self-disclosed as being more confident than the same student who did not self-disclose ($OR = 0.49$, $p = 0.325$). These results suggest that the model was not able to distinguish between preferences for self-disclosure and for no self-disclosure.

Finally, to explore whether perception differed if the professor both knew a person who stutters and also was affiliated with a department of communication sciences and disorders a logistic regression model was employed to examine the impact of CSD affiliation and knowing a PWS on which video was preferred as most confident. The model examined the influence of self-disclosure on professors' preferences among those who reported a preference between the two videos. Those who reported no preference were filtered out of the logistic regression model. This left 75 participants who reported a preference. The remaining participants were made up of 23 CSD professors and 52 non-CSD professors. Overall, the model found no effect between the independent variables of CSD affiliation and knowing a PWS on the outcome measure of "more confident"

preference ($X^2(2, N = 75) = 1.281, p = .527$). The model can only account for between 1.7% (Cox and Snell R-square) and 2.5% (Nagelkerke R-squared) of the variance of responses. However, results show that 56 (74.7%) professors who chose a preference, rated the self-disclosure video as most confident.

DISCUSSION

To review, past research has indicated that professors have negative perceptions of college students who stutter. There are also data to suggest that acknowledgment or what is more commonly referred to as self-disclosure of stuttering may facilitate a more positive listener perception of the speaker who stutters. The present study sought to determine whether professors' perception of persons who stutter would differ if college students who stutter self-disclose. Additionally, the present study explored whether the professors who are in CSD departments and/or professors who have previous experience of personal interactions with persons who stutter may differ from professors in non-CSD departments or who have had no such personal interactions.

INFLUENCE OF SELF-DISCLOSURE ON PROFESSORS' PERCEPTIONS

Although most statistical analyses indicated self-disclosure did not have a significant influence on professors' perceptions, the present study still yielded valuable considerations for clinical practice. First, results corroborate the benefit of acknowledging a handicap with Collins and Blood's (1990) study. We found that of the professors who reported a preference of video 1 or 2 (n = 75), 74.7% (56) felt the college student they viewed was more confident when they self-disclosed than the same student who did not self-disclose their stuttering. This is particularly important given that professors hold a unique impact on a student's academic success and ultimately their future career.

It is generally agreed that perceptions impact one's behavior, as Hastorf et al. (1979) found with adults selecting a work partner. Additionally, Frymier and Wanzer

found that "perceptual barriers are usually recognized as the real barrier in interactions between able-bodied persons and persons with disabilities" (p. 176). In that regard, professors' perceptions and their behavior, may in turn affect a student's 1) participation in classroom interactions, 2) willingness to seek out mentoring relationships, and 3) motivation to excel (Bento, 1996; Daniels et al., 2011; Frymier & Wanzer, 2003). Thus, these findings suggest that clinicians should continue to encourage college students to self-disclose that they stutter when interacting with their professors.

Future studies should further investigate the influence of self-disclosure in the academic setting by examining whether students who self-disclose actually display higher levels of 1) participation in classroom interactions, 2) willingness to seek out mentoring relationships, and 3) motivation to excel. If self-disclosure is indeed helpful at mitigating a widely corroborated negative stereotype of PWS, it may also increase student participation, motivation, and facilitate mentoring relationships.

Regression analyses indicated that professors do not appear to perceive college students who stutter who self-disclose markedly differently than those who do not. One consideration is that the college students in the present study did not stutter severely enough for the use of self-disclosure to have a meaningful impact on listener perception. Perhaps self-disclosure would only be perceived beneficial in the case of severe stuttering, as found to be true in a study by Collins and Blood (1990). These researchers found that adults who stutter who present with severe stuttering were more likely to benefit from acknowledgement than adults with mild stuttering. Future research should investigate the influence of stuttering severity through a replication of the current study using both mild and severe stuttering to see if this does in fact mitigate perception.

INFLUENCE OF ACADEMIC TRAINING (CSD VERSUS NON-CSD) ON PROFESSORS' PERCEPTIONS

Given past research, the assumption could be made that perhaps professors view PWS more negatively because of their lack of knowledge regarding speech-language pathology and the related disorders. The present study did not substantiate this claim as the inclusion of CSD professors showed no significant change of rating behavior. At first glance, the current findings suggest that perceptions are largely the same across all departments sampled in regards to the influence of self-disclosure, despite the fact that the professors in the CSD department had increased education specific to communication disorders. However, this finding did approach significance, as professors who reported CSD affiliation were 1.57 times more likely to rate the self-disclosure video as most confident.

As this study investigated the role of self-disclosure exclusively, a complete view of university professors' perceptions of college students is impossible to obtain. Self-disclosure is only one of many factors that could shape a professors' perception. Clinically, it is still supported that increased knowledge of stuttering will benefit PWS. In Daniels et al.'s (2011) study, professors who reported having a course in stuttering were 1) likely to yield positive views of students who stutter, 2) did not express discomfort in reacting to students who stutter, and 3) were likely not to view stuttering as a psychological problem (p. 638). Additional findings from Daniels et al.'s (2011) study, found that professors wished to learn more about how best to work with students who stutter as many had little to no experience working with this largely misunderstood population.

The present study contained a relatively small sample size of CSD professors, therefore reducing generalization of the findings. Future research with a larger sample is

needed in order to determine whether increased evidence of increased education specific to stuttering leads to positive perceptions of PWS.

INFLUENCE OF PREVIOUS EXPERIENCE OF PERSONAL INTERACTIONS WITH PERSONS WHO STUTTER ON PROFESSORS' PERCEPTIONS

Again, given past research, having had personal interaction with a person who stutters over the course of your life may influence listener perception of a speaker who stutters. This claim was not supported by our present study as previous experience of personal interaction to stuttering had no significant effect on professors' responses. The 132 respondents (79% of sample) who reported interacting with a PWS were no more likely to rate a college student who self-discloses as "more confident" than the 36 participants who did not. It is possible that those who reported prior experience of personal interaction with a person who stuttered were less affected by self-disclosure due to prior desensitization to stuttering behavior. The large proportion (79%) of professors who contributed to the present study that reported interactions with a PWS could have possibly lead the lack of significance found between conditions with and without self-disclosure.

If these prior experiences do indeed desensitize the listener to stuttering behavior than it could be clinically relevant to encourage clients who stutter to foster meaningful relationships with people who do not stutter. This outgoing approach may not be appropriate for all clients but may have the benefit of desensitizing those close to the client. Knowledge of this desensitization may also benefit the clients themselves as stuttering behavior is susceptible to listener reaction (Bloodstein, 1975; Sheehan, 1975; Van Riper, 1982).

Past research on this subject has not reported on participants' possible previous interactions with PWS. These previous experiences are likely to shape individuals' perceptions of stuttering. It is possible that this knowledge is applied to all future interactions with PWS. Therefore, reporting these previous experiences helps to shape our understanding of how these experiences shape perceptions of PWS. Future research should continue to investigate this influence as currently no other study does.

ADDITIONAL CONSIDERATIONS

Results from the present study should be interpreted with caution to at least few confounds. First and foremost, there are inherent flaws within online survey use. Researchers cannot control the environment within the participant completes the online survey (e.g., limited distractions, limited background noise). These environmental differences may have confounded the results. It is also possible that technology issues (e.g., speaker volume) could similarly confound responses. For instance, per instruction, professors were only allowed to watch each video once. If the audio was inaudible initially and the professor raised the volume 15 seconds after the start of the video, he/she would miss the students' self-disclosure message. Participants' responses were analyzed as representing their true feelings about the stimuli, but consistent with all survey research, uninhibited perception may be difficult to tease out (i.e., the participant may respond in a manner different to their own true feelings). Despite these limitations, online survey dissemination was still chosen as the method for the present study given the benefits in canvassing a wide area and reaching a large population of professors.

Previous investigations of the efficacy of self-disclosure (i.e., acknowledgement) presented participants with only one video and analyzed the differences in perceptions

reported (Hastorf et al. 1979). In an effort to increase sample size, participants in the present study were shown two videos and asked to compare. Perhaps this methodology revealed the purpose of the study to participants confounding their responses. This organization also presented two very similar videos in tandem, possibly attracting responses of "no difference."

CONCLUSION

Listener perception of speakers who stutter has been proven to be largely negative across a variety of studies and a wide range of listeners. Research has also demonstrated that when a speaker discloses his or her stuttering to the listener, the listener tends to view that speaker more positively. The majority of the findings of the present study were not significant but they are still clinically relevant. Results from the present study suggest that self-disclosure may be beneficial to at least some college students who stutter as some university professors are more likely to associate this form of acknowledgement with increased confidence. Our findings, like those of Collins and Blood (1990), Hastof et al. (1979), and Blood and Blood (1982), indicate that acknowledgement can lead to a more positive environment for social interaction with a PWS. Taken together, past as well as present research support continued use of self-disclosure in clinical practice. This strategy may be especially important for college students who stutter as they potentially face more significant consequences when their professor views them through stereotypes.

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